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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,503	12/11/2003	Scott A. Flatness	085.10960-US(03-430)	9228
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EXAMINER SUERETH, SARAH ELIZABETH				
ART UNIT		PAPER NUMBER		
3749				
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09/03/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/733,503

Applicant(s)

FLATNESS ET AL.

Examiner

Sarah Suereth

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-10 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9 and 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed 5/22/08 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-4, 6-8, and 14-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **U.S. Patent No. 5,494,004 to Hunter, Jr.** ("Hunter") (previously cited) in view of **U.S. Patent No. 1,599,283 to Phillips** ("Phillips") and **U.S. Patent No. 1,380,358 to Cooke** ("Cooke").

Hunter discloses in the specification and figures 1-15 an invention in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 1-4, 6-8, and 14-24.

In particular, in regard to at least claim 1 and 14, Hunter shows an apparatus for cleaning a surface within a vessel (interior surface of vessel wall 83), the apparatus comprising: an elongate combustion conduit (21 and 51) extending from an upstream end to a downstream end with an aperture (81) in a wall of a vessel (83) and positioned to direct a shock wave toward the surface (see abstract and note pulsed pressure waves and col. 6, lines 38-54); and a plurality of moveable supports (each of supports 153R, 151R, 155 and 153F, 151F, 155) supporting weight of the combustion conduit (at least portion 51) at a plurality of location along a length of the combustion conduit (note multiple locations in Fig. 1). This apparatus in Hunter is considered to form the recited "industrial facility" of claim 14.

In regard to at least claim 6, the supports are considered to accommodate longitudinal expansion and/or contraction of the combustion conduit as recited, in the same manner as applicant's invention.

In regard to at least claims 7 and 22, each of the supports, that include legs (151R, 151F), axles (153R, 153F), and wheels (155), are broadly considered to each constitute a "trolley" as recited meeting applicant's recitation. The wheels (155) engage a track (157) on a support surface (top of 161).

Alternatively, in regard to at least claims 7 and 8, even if the multiple legs, axles, and wheels of Hunter are not properly considered to form a plurality of trolleys, these structure clearly form at least one platform (131) which is clearly understood to form a trolley. Further, as the sections (51 and 21) are reasonably considered to from the recited combustion conduit, this trolley (131) serves to support at least one of the combustion conduit segments (51). The recitation that the combustion conduit comprises a plurality of separable segments that are each supported on one of a plurality of trolleys is considered met by simply duplicating the detonative cleaning assembly, show for instance in Fig. 1 of Hunter where each assembly is at least arranged adjacent another, for instance by adding another trolley (51) under the second conduit segment (21). In doing so, the collection assemblies would form the apparatus for cleaning a surface within a vessel including an elongate combustion conduit as formed by the collective combustion conduits of the assemblies. It has been held that mere duplication of parts has not patentable significance unless a new and unexpected result is produced. See MPEP 2144.04(VI)(B). Accordingly, in this case, merely

duplicating the cleaning assembly of Hunter would be expected to provide for additional means for cleaning the interior of walls of the vessel (83).

Hunter does not disclose a resilient member resiliently restraining the combustion conduit against recoil forces (claims 1 and 14) nor the particular arrangement and structure of the resilient member (claims 2-4, 15-17, 21, 23, and 24). Hunter also does not disclose that the vessel being cleaned is a boiler or includes surfaces formed by a boiler tube bundle.

The combined teachings of Phillips and Cooke are cited to remedy the deficiencies in Hunter. Phillips discloses a cleaning device of a condenser (A) with outer head (D). This condenser is reasonably considered to form a boiler and includes a plurality of tubes (C) that form the recited boiler tube bundle. In Phillips the cleaning devices is formed as a base portion (see head 26 and Fig. 3) with an elongated tube (25) and nozzle (2) that is inserted into the condenser and cleans the tubes (C) by means of "water, steam, air or other fluid." (see page 1, lines 10-12). Phillips further provides that the head (26) includes "connecting chains or other flexible links 30" (see page 1, lines 85-87) that are connected both to the head (26) and to the cap (11) which forms part of the wall of the vessel (D). The purpose of these links (30) is to maintain the head (26) in position during operation of the cleaning device (see page 1, lines 87-93). The examiner considers that a person of ordinary skill in the art would reasonably regard the function of the links (30) to, among other things, maintain the cleaning device in proper position due to potential recoil forces associated with the ejection of the "water, steam, air or other" fluid from the nozzle (2) of the tube (25). While Phillips does

describe item (30) as "flexible links", Phillips does not expressly disclose this links to be resilient or specifically tension springs or tension springs with an additional strap in series.

Turning now to Cooke, this reference shows a gun that deploys a projectile by using the forces associated with a combustion explosion. Like in Phillips, Cooke employs links (27) that function to maintain the gun assembly in proper position during its operation (see page 2, lines 55-61). Cooke further specifies that such links are understood to be formed by tension springs to accomplish this purpose (id.). In light of this teaching in Cooke, the examiner considers a person of ordinary skill in the art would reasonably select tension springs for the "flexible links" of Phillips. Regarding the recitation of straps in series with the tension springs, the examiner considers that selecting a tension spring for the flexible link (30) of Cooke would result in the use of tension springs attached in series to the hooks (4) in Phillips. At least these hooks (4) are reasonably considered the recited straps.

Therefore, in regard to claims 1-4, 6-8, and 14-24, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the cleaning apparatus of Hunter to incorporate the resilient restraining mechanism as suggested by Phillips and Cooke, for the desirable purpose of maintaining the cleaning device in proper position during its operation (see each of Phillips, page 1, lines 87-93 and Cooke, page 2, lines 55-61).

6. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hunter, Phillips, and Cooke** as applied to claim 1 above and further in view of **U.S. Patent No. 4,218,016 to Freund** ("Freund").

Hunter, Phillips, and Cooke teach substantially all the limitations of claim 9 with the exception of the recitation that the plurality of supports comprise a plurality of hangers.

Freund teaches a retractable cleaning device for the surfaces of boiler tubes (see abstract) that is considered analogous to applicant's invention and the cited prior art. In Freund, the cleaning device is formed by a moveable support (12) that, in lieu of a trolley assembly, is supported by multiple hanging roller assemblies (30 and 20). This hanging assemblies function to insert and retract lance tube (12) from the boiler (see at least col. 2, lines 25-44).

Therefore, in regard to claim 9, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute the hanging roller assemblies taught in Freund for the trolley arrangement of Hunter as matter of simply substituting one movement mechanism for another for obtain the predictable result of advancing and retracing a cleaning device from a vessel.

Response to Arguments

7. Applicant's arguments have been fully considered but they are not persuasive.

In response to applicant's argument that the Hunter supports cannot accommodate expansion or contraction, a recitation of the intended use of the claimed

invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, the Hunter supports are inherently capable of accommodating some degree of expansion or contraction, due to their structure.

Regarding claim 8, applicant argues that connecting several trolleys in series is not mere duplication of parts. However, the examiner disagrees, as the effect of using several support trolleys is merely to amplify the amount of support provided, and to extend the support along the apparatus. The courts have held that duplication of parts for amplified effect does not distinguish over the prior art, unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) , also MPEP 2144.04). In this case, there is no unexpected or surprising result from using more than one support.

8. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Philips clearly suggests the desirability of using a resilient support (flexible links) to hold the cleaning

apparatus in place despite vibrations. Cooke is relied upon only for the teaching that the specific type of support was known. Together, these references would suggest to one of ordinary skill in the art the desirability of the invention.

9. In response to applicant's argument that it would be difficult to incorporate the Cooke support into the Hunter apparatus, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

10. The double patenting rejections are withdrawn in view of the abandonment of the copending application.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Suereth whose telephone number is (571)272-9061. The examiner can normally be reached on Mondays & Tuesdays 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister, can be reached (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarah Suereth/

Examiner, Art Unit 3749

Application/Control Number:
10/733,503
Art Unit: 3749

Page 11

/Steven B. McAllister/

Supervisory Patent Examiner, Art Unit 3749